Before the FEDERAL COMMUNICATIONS COMMISSION Washington, D.C. 20554

In the Matter of)	
)	
Inquiry Concerning the Deployment of)	GN Docket No. 11-121
Advanced Telecommunications Capability to)	
All Americans in a Reasonable and Timely)	
Fashion, and Possible Steps to Accelerate Such)	
Deployment Pursuant to Section 706 of the)	
Telecommunications Act of 1996, as Amended)	
by the Broadband Data Improvement Act)	

COMMENTS OF THE SOUTHEAST ASSOCATION OF TELECOMMUNICATIONS OFFICERS AND ADVISORS IN RESPONSE TO THE EIGHTH BROADBAND PROGRESS NOTICE OF INQUIRY

I. INTRODUCTION

The SouthEast Association of Telecommunications Officers and Advisors ("SEATOA"), a chapter of NATOA, consists of local government officials, staff members and their consultants whose responsibilities include developing and administering local community broadband and other communications systems across the four state region of North Carolina, South Carolina, Georgia and Tennessee. SEATOA submits these comments in response to the Notice of Inquiry ("NOI"), released August 5, 2011, in the above-captioned proceeding, drawing on its local experiences, which are often colored by the high percentage of rural areas within these states, including in North Carolina where half the state's population lives in rural areas.

II RESPONSE TO INQUIRY

A. Should the definition of Advanced Telecommunications Capability be revised?

In its Sixth and Seventh Broadband Progress Reports, the Commission found that only broadband of a certain speed could satisfy the definition of advanced telecommunications capability, and established in 2010 a minimum broadband speed threshold of at least 4 Mbps of actual download speed and at least 1 Mbps of actual upload speed (4 Mbps/1 Mbps). This

¹ NOI at ¶6.; also Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act; A

standard mirrored the conclusions of the FCC's National Broadband Plan² as the minimum level of Internet speed necessary for Americans to participate in contemporary life.³ The Commission asks whether it should revise this threshold, asking, for example should the existing benchmark be revised to upload and download speeds that match the data levels collected on its Form 477; such as 3 Mbps/768 kbps or 6 Mbps/1.5 Mbps.

Because SEATOA's North Carolina members have been particularly affected by the FCC's broadband speed measurements, which have been used by the North Carolina legislature to define "unserved" areas and effectively preclude municipalities from providing broadband service anywhere outside of those "unserved" areas, SEATOA encourages the Commission to revise its broadband data collection levels as described below.

B. How Should Broadband Deployment Be Interpreted and Measured?1. State Broadband Data and Development (SBDD) Data

The Commission states that the SBDD Data are the nation's "most current and best publicly available broadband deployment data," and that it is likely to rely on SBDD Data to assess broadband deployment for its Eighth Report. The Commission asks whether there are any concerns regarding the SBDD Data that it should factor into its analysis of broadband deployment? SEATOA responds that in the Commission should improve its own Form 477

National Broadband Plan for Our Future, GN Docket Nos. 09-137, 09-51, Sixth Broadband Progress Report, 25 FCC Rcd 9559, 9562–66, $\P\P$ 5, 9–15 (2010 Sixth Broadband Progress Report); Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket No. 10-159, Seventh Broadband Progress Report and Order on Reconsideration, 26 FCC Rcd at 8014, 8018–20, $\P\P$ 10, 14–16 (Seventh Broadband Progress Report).

² See FCC, Omnibus Broadband Initiative (OBI) Connecting America: The National Broadband Plan, GN Docket No. 09-51 (2010) (National Broadband Plan) found at http://download.broadband.gov/plan/national-broadband-plan.pdf.

³ See National Broadband Plan, Chapter 8, page 135,also Sixth Broadband Deployment Report at ¶5: "The National Broadband Plan recommends as a national broadband availability target that every household in America have access to affordable broadband service offering actual download (i.e., to the customer) speeds of at least 4 Mbps and actual upload (i.e., from the customer) speeds of at least 1 Mbps.... It is the minimum speed required to stream a high-quality —even if not high-definition—video while leaving sufficient bandwidth for basic web browsing and e-mail, a common mode of broadband usage today that comports directly with section 706's definition of advanced telecommunications capability. As the target for the broadband capability that the National Broadband Plan recommends should be available to all Americans, this speed threshold provides an appropriate benchmark for measuring whether broadband deployment to all Americans is proceeding in a reasonable and timely fashion."

broadband data collection and continue to use it⁴ in conjunction with, but not solely rely on, improved SBBD data, which to date in some states is not accurate, publicly available or reliable.

A detailed and (more comprehensive) description of how SBDD data is not accurate, but in fact exaggerates broadband availability, can be found in APPENDIX F, Technical Appendix of the FCC's Seventh Broadband Deployment Report. For example, broadband availability is measured not only by what areas are served but according to the carrier's discretion of where they "could be" served "within 7-10 business days." Broadband availability for residential subscribers is not distinguished from business subscribers. Broadband availability is reported not by households, but by either census blocks (when those blocks are smaller than two miles) or by street segment, where census blocks exceed two miles. The NTIA mapping rules permit providers to report that all homes in a census block or street segment are served if only one home is served (or could be served within 7-10 business days). State mapping entities also have no punitive means to require that a particular measuring technique is used, or that a provider participate in the mapping process. Speeds are reported not by actual speed received, but by advertised speeds. Finally, NTIA's data collection efforts do not produce hard, publicly available numbers as to the percentage or numbers of households in a particular geographic unit that are actually served by broadband. Rather, they produce a map that can be searched based on address or geographic unit to identify the broadband provider or providers who provide service at that address or in that geographic unit and the advertised speed of that provider's service. The NTIA data collection project does not produce data which would be useful to government planners such as data showing that X% of the homes in community Y have access to broadband service at speeds of at least ABC.

Overall, the resulting lack of accuracy and under-reporting of actual broadband need, hurts our country's ability to recognize and remedy its large broadband deficits, particularly in states with large rural populations, whose low density populations make it difficult to establish a compelling business case for private sector broadband investment. North Carolina, for example, will suffer directly from the lack of accessible household broadband data. Under an industry-

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⁴ See Seventh Broadband Progress Report at ¶22, noting that the Commission has utilized both the FCC Form 477 and the SBBD Data in its broadband analysis.

SBBD data is also not truly publicly available. In North Carolina, for example, a number of the large carriers serving the state insisted on confidentiality agreements with the State's mapping agency. As a result, SBDD data maps from e-NC only list the providers and advertised speeds for a particular address, but provide no aggregate data by jurisdiction, census tract, or census block showing the percentage or number of household in the area that actually have access to broadband service or the actual levels of speed available in the particular geographic area.⁸

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⁵ See S.L. 2011-83, NC House Bill 129: An Act to Protect Jobs and Investment by Regulating Local Government Competitive with Private Business, May 21, 2011 ("Level Playing Field law"). Found at http://www.ncga.state.nc.us/gascripts/BillLookUp/BillLookUp.pl?Session=2011&BillID=H129.

⁶ Level Playing Field law, §106A-340(1)(4) defining "high speed Internet access as "Internet access service transmission speeds that are equal to or greater than the requirements for basic broadband Tier 1 service as defined by the Federal Communications Commission for broadband data gathering and reporting." and §160A-340.2 (b) Exemptions for "unserved areas, "the term 'unserved area' means a census block as designated by the most recent census of the U.S. Census Bureau, in which at least fifty percent (50%) of the households either have no access to high-speed Internet service or have access to high-speed Internet service only from a satellite provider."

⁷ Even if it was reported by household, communities are prevented from downloading the state data into their GIS systems because of e-NC confidentiality agreements with the carriers. More so, communities seeking to serve unserved areas must make a census-block by census-block case to NC's Public Utility Commission, which must by law give the industry a minimum of 30 days to challenge the data. Even if a community could afford to do the type of community-wide survey needed to make its census block case (using actual speeds available), because the law default's to the FCC's standard of characterizing broadband by an "advertised" speed, the industry will be able to effectively argue that these areas are "served" by throwing on the table their self-defined "advertised" speed availability figures even though those speeds, and that broadband, does not actually exist in these areas (see note below).

⁸ Again, if a provider chose to interpret one home in that Census block or street address as being able to receive broadband service within 7-10 business days, all the homes are considered to have service. SEATOA officials have witnessed many irate rural residents complain to e-NC because their homes are listed as having internet service

Finally, the Commission is ill-advised to depend solely on SBDD data when these state mapping agencies can be rendered inoperable on very short notice via state legislative dismantling. For example, North Carolina's new Republican legislative majority recently defunded the state's 20 year old state mapping authority: e-NC. While the Governor has promised to continue that mapping effort, any new agency developed would be subject to the same state political budgeting process, where the telecommunications industry has already shown its influence.

2. Form 477 Data

The NOI describes how the Commission is considering, and will make, reforms to its Form 477 data collection as a result of the pending *Modernizing Form 477 NPRM* proceeding, noting that these forms currently only collect data on broadband subscribers at advertised, not actual speeds, over areas no smaller than census tract or an entire County, and assume that if 1% of the homes in those areas subscribe to broadband, that the entire area can receive broadband. The Commission asks whether it should continue to analyze broadband deployment based on Form 477 residential broadband subscribership data, and if it does so, how can this data be improved, including according to what geographic unit(s) and *de minimis* threshold(s) and why?

SEATOA repeats that the Commission should modernize and improve the accuracy of its own Form 477 broadband data by increasing the level of granularity and requested information (taking a broadband photo in time, rather than "possibilities" in time), removing the confidentiality provisions, and never relying solely on SBDD data.

A detailed and comprehensive description of the weaknesses in Form 477 data collection can be found in APPENDIX F, the Technical Appendix of the FCC's Seventh Broadband

when only dial-up service is available, including many of the more rural counties (Orange, Chatham) within easy driving distance of more urban areas like Chapel Hill and Cary. One Orange County resident (a Chapel Hill employee) even brought his modem to a legislative hearing and told legislators he needed to throw it away after Centurylink sent him an advertisement that he could receive DSL service, facilitated his purchase of a modem and then followed up by a service tech telling him that there was simply no way they would ever be providing him DSL service because the Company had no intention of purchasing a \$1700 piece of equipment needed to activate the service in his area. Shortly thereafter, this resident's wife ended up closing down her design engineering business because she could not compete with firms in urban areas who had broadband. (Driving to the nearest cell tower 5 miles away to upload her designs using an air card became too unworkable.) There is a sad irony that this household was within easy driving distance, and so employable, in an intense knowledge-based community (Chapel Hill) but could not work in that same knowledge field once they were home. The job creating power of broadband is that it works in just the reverse.

⁹ NOI at ¶8 n.21 (advertised vs. actual speed), ¶12-13 and n.42-43 (census tracts and 1% de minimis standard)

deployment Report. The FCC should resolve all these issues. SEATOA suggests just some of the many obvious improvements needed. For example, SEATOA believes it is prudent for the FCC to sync up its Form 477 with the broadband levels established as minimum thresholds and national targets in the Commission's own National Broadband Plan so that it can track the progress being made in our country toward those goals. Since its Sixth Report, the Commission has adopted its National Broadband Plan's broadband availability targets of 4Mpbs/1Mbps actual broadband speed as the minimum Internet speed level necessary to participate in contemporary life, justly using these speeds as the "minimum broadband threshold" for purposes of establishing whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion. Yet, its own Form 477 does not specifically collect subscribership data at those levels. (In assessing compliance with its own new standard, the FCC had no choice but to use Form 477 data showing speeds of at least 3 Mbps/768K as a proxy for 4MBps/1MBps.)¹⁰ The FCC's NBP has also established the goal of 100 million U.S. homes having 50Mbps/20Mbps actual download and uploads speeds by 2015 and 100 million U.S. homes having 100Mbps/20 Mbps actual download/upload speeds by 2020, and yet again these exact data rates are not collected on the Form 477. Three new tiers could be added to the upload and download "Rate Codes" on the Form 4777 to capture this data, and the surrounding categories modified: e.g. Form 477 Rate Code 4 for both upload and download speed could change to "Greater than or equal to 1.5 mbps and less than 4 mbps; and a Rate Code 5 could change to "Greater than or equal to 4 Mbps and less than 6 Mbps. 11

SEATOA also requests that the Commission modernize the labels associated with the Form 477 broadband tiers so they comport with its new minimum broadband thresholds, a change which could effectively permit more North Carolina communities to provide broadband service. One particular label, "FCC Basic Broadband Tier 1," is used in North Carolina's new municipal broadband law to effectively deny communities the future ability to provide broadband service. Specifically, in its 2008 Broadband Data Gathering Order, the FCC reclassified its Form 477 speed thresholds into 8 categories, removed from its classification as

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¹⁰ NOI n. 25; Seventh Broadband Progress Report at ¶25 and its Appendix F: Technical Appendix ¶16.

¹¹ Likewise, Rate code 8 for upload and download speed rate reporting could change to "Greater than or equal to 25 mbps and less than 50 mbps"; a new Rate Code could be established of "Greater than or equal to 50 mbps and less than 100 Mbps;" with a rate Code 10 replacing the current Rate Code 9 of "Greater than or equal to 100 mbps." See listing of current codes at http://transition.fcc.gov/form477/inst.htm.

"broadband" speeds slower than 768Kbps, and casually inserted through a footnote labels associated with each tier (200 Kbps was classified as "1st Generation Data" and 768Kbps to 1.5Mbps was classified as "Basic Broadband Tier 1, etc.") ¹² Although these labels were never placed onto the Form 477 itself, and even though the Commission has recognized 4Mpbs/1Mbps since 2010 as its minimum broadband speed threshold (the level necessary, according to its National Broadband Plan, to participate in contemporary life) these original (footnote) labels have never been revoked or modernized to reflect this change, nor have speeds slower than 768Kbps been removed from the FCC's "Broadband Reporting" form. ¹³

The impact of this labeling anachronism has been significant for North Carolina's communities that are underserved by private sector broadband providers. In the face of the FCC's National Broadband Plan stating that 4Mbps/1Mpbs is the level at which public investment should be targeted, ¹⁴ Time Warner Cable and Centurylink, among other private providers, were able to push a "Level Playing Field" law through the North Carolina legislature that imposes crippling and prohibitive regulations on any community seeking to offer broadband service in any census block where 50% or more of the households have access to Internet services at speeds "that are equal to or greater than the requirements of basic broadband tier 1 service as defined by the Federal Communications Commission for broadband data gathering and reporting." (Under current FCC practices, that speed would apparently be a minimum of 768Kbps of advertised speed for downstream service.) ¹⁵ In other words, a footnote in the FCC's 2008 Broadband Data gathering effort will effectively prevent North Carolina communities from

¹² See Development of Nationwide Broadband Data To Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans; Improvement of Wireless Broadband Subscribership Data; Development of Data on Interconnected Voice over Internet Protocol, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd 9691, 9700–01, para. 20 n.66 (2008) (2008 Broadband Data Gathering Order): "We will use the terms "first generation data" to refer to those services with information transfer rates greater than 200 kbps but less than 768 kbps in the faster direction, and "basic broadband tier 1" to refer to services equal to or greater than 768 kbps but less than 1.5 mbps in the faster direction. Subsequent tiers will be labeled "broadband tier 2" through "broadband tier 7." These terms are evolving definitions that should change over time based on advances in technology and growth in demand for broadband service.

¹³ Upload speeds were not even included in these labels, but 4Mbps download speed would be somewhere in the range of "Broadband Tier 3."

¹⁴ National Broadband Plan, Chapter 8, page 135.

¹⁵ The law subjects any community providing, among other things, "high speed internet service" to a plethora of reporting and regulatory requirements to which the private sector is not subject.

solving the private sector broadband deficiencies in their communities in any census block where 50% or more of the households have access to broadband service at advertised speeds of only 768 Kbps for downstream service, a level the Commission has determined is far less than required for Americans to engage in modern life. ¹⁶

SEATOA recommends that, at a minimum, the Commission use its own minimum broadband speed threshold of 4Mbps/1Mbps of actual broadband speed as its equivalent of "Basic Broadband Tier 1" service.¹⁷ Any speeds slower than that should be gradations of "1st generation data." and any speed slower than an actual speed of 768 Kbps should no longer be measured; Simply measuring these speeds on the FCC's "Broadband Reporting Form," validates them as broadband, when the Commission has admitted they are not.¹⁸ Put into perspective, according to a March 21, 2011, FCC report, North Carolina ranks dead last in the country for consumer access to the minimum broadband speeds necessary to engage in modern life -- with only 10% of North Carolina households receiving broadband service at speeds that equal or exceed 3 Mb/768 kb levels.¹⁹ The Commission's small labeling change could potentially liberate unserved and underserved North Carolina communities to provide broadband service, especially in areas where the industry has not been willing to meet the FCC's broadband availability targets of 4Mbps/1Mbps.

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¹⁶ A standard video takes 2.5 hours to download at 768Kbps speed. See: http://elliottback.com/wp/fcc-definition-for-broadband-now-768kbps.

¹⁷Although SEATOA agrees with NATOA that the FCC's 4Mbps/1Mbps threshold now also needs modernizing to 10 Mbps symmetrical. SEATOA notes that North Carolina's two publicly-owned fiber to the home broadband providers have as their minimum level of residential broadband service, 10Mbps symmetrical service.

¹⁸ Simply put, speeds slower than 768Mbps are not broadband and should not be treated as if they are. The practical impact for states like North Carolina of validating a speed level as "broadband" simply by measuring it needs to be emphasized. The FCC's Form 477 continues to measure speeds less or equal to 200 Kbps and between 200Kbps and 768 Kbps in its "Local Telephone Competition and <u>Broadband Reporting</u> Form," where any speed reported is described and captured under the rubric "broadband." North Carolina's Level Playing Field law effectively prohibits local communities from providing "broadband and high speed internet service," with the definition of broadband defaulting to the federal definition. The industry will argue that <u>any speed on the Form 477 Broadband Reporting Form is broadband</u>, although the Commission states that no speeds below 4Mbps/1Mbps is a (broadband) speed effective for engaging in the critical services of modern life. The FCC implies it wants to continue measuring these lower speeds so it can measure progress, but if these speeds are not truly useful for Americans, *i.e.* are NOT for any real purpose "broadband," they should not be measured (i.e. any speeds not in the report are irrelevant because they are NOT broadband). "Consistency" serves no purpose except to validate a service as broadband when it is not.

FCC's 2010 Internet Access Services report, tables 15 and 16 [June 30, 2010: www.fcc.gov/wcb/iatd/comp.html]; 3Mbps/768 Kbps is the closest speed data to the FCC's broadband availability targets collected on FCC Form 477.

SEATOA also recommends that the Commission increase the granularity of its broadband data measurements and collect household broadband data down to the census block level. The Form 477 current census tract approach allows data to be aggregated in groups of 4,000 households, ²⁰ removing critical detail for appropriate broadband planning, especially in the low density, wide-open underserved areas of many states. ²¹ Carriers can no longer argue, as they did during the FCC's 2008 Broadband Data Gathering Order, that census block reporting is "too burdensome;" they easily provide this level of granularity now to state mapping authorities. Nor should carriers be permitted, as they are under the SBDD data collection, to attribute all the homes in a census block as subscribing to broadband if only one home does so. That delegitimizes the entire data collection process itself.

Analysis of broadband deployment using the Form 477 data can be improved by requiring carriers to report the percentage of homes where broadband is <u>not available</u> in those same census blocks, ²³ rather than assuming if 1% of the homes subscribe, all the households in that census tract receive service. (Carriers tend to serve areas based on household density, not by how many homes are already served in a census tract.) ²⁴ Carriers are also fully aware of their actual penetration (deployment) levels, and know how many homes even in rural neighborhoods they do not serve. ²⁵ Why should not the FCC have access to this important policy data, rather

²⁰2008 Broadband Data Gathering Order at ¶12, n.36.

²¹ See Seventh Broadband Progress Report at Appendix F, ¶23 reporting that "there may be increased reason to question the accuracy of our deployment estimates based on 477 Data for the relatively large census tracts in the less populated parts of the country...and for counties." SEATOA notes that these are the very "low-density" areas that private companies are failing to serve; and where the data is the most critical for public investment.

²² 2008 Broadband Data Gathering Order at ¶¶11-12.

²³ Likewise, where census blocks are larger than two miles, broadband reporting could continue to be by street segment, but with carriers again specifying the actual number of households who subscribe or who do not subscribe in those segments. Broadband subscribership should be determined by whether households are actually receiving service on a specific date, rather than letting carriers compromise data collection by being permitted to incredible discretion to decide if an area can be served within "7 to 10 business days." See SBDD data discussion above.

²⁴ On numerous occasions, representatives of the large private carriers in North Carolina have told SEATOA officials that their deployment strategies are governed by various demographic factors of an area, one of the most significant being home density levels, but never once have they stated that they deploy based on a percentage of homes in a census tract that currently subscribe to broadband.

²⁵ SEATOA officials have interfaced with large carriers in North Carolina, such as Time Warner Cable, enough times to learn these companies are fully aware of how many households they do and do not serve on a given street, whether in a rural or urban area, including being able to easily generate 5+4 zipcode reports of their subscriber household counts (i.e., down to the neighborhood block) for FCC effective competition rate deregulation filings.

than over-reporting broadband penetration with de-minimis deployment ratios such as 1%? What public policy goal is advanced by collecting and disseminating misleading data as to the availability of broadband service?

These changes will again benefit North Carolina underserved communities. Under the state's new Level Playing Field law, municipalities are permitted to serve unserved areas, but the law defines an unserved area as a census block where 50% of the households do not receive FCC Basic Broadband Tier 1 service. As noted, SBDD data treats the entire census block as served if only one home in the census block is served. Aggregate data for a census block or any other geographic unit such as a county or a municipality is not available through NTIA's SBDD data collection project because of confidentiality agreements between state mapping agencies and carriers. Broadband provider data is only publicly viewed on e-NC maps in North Carolina by individual street address. If Form 477 broadband data were collected by census block level, it would provide North Carolina communities an available (and affordable) source of broadband data to begin assessing whether they can serve these underserved areas.

SEATOA also agrees that "actual" speed levels need to be reported by census block level. Both FCC Form 477 data and SBBD speed data are currently based on advertised speed rather than actual speed. The FCC itself notes that advertised speeds can differ as much as 50% from actual speeds²⁶; this reporting flaw further disguises the real broadband deficit in our country. In North Carolina, for example, reporting "advertised speeds" is permitting the industry to report the existence of broadband where there is none (*i.e.*, where there is only dial-up) (see footnote 8), and will allow them to prevent municipalities from serving genuinely unserved areas (footnote 7).

Finally, SEATOA recommends that the Commission modify its policy of keeping Form 477 broadband subscription and penetration rates for particular geographic units (*e.g.*, census block, census tract, municipality, county) "confidential." All carriers are fully aware of the presence of the plant of competing providers in their service territories by simply keeping an eye on new installations on the poles, in the ground, and on communications towers in their service

subscribe. The same data suggest that for upload speeds, actual performance is approximately 45% of the "up to" advertised speed (closer to 0.5 Mbps)."

National Broadband Plan, page 21, "However, the actual experienced speeds for both downloads and uploads are materially lower than the advertised speeds .Data indicates the average *actual* download speed in American households for broadband is 4 Mbps (median *actual* is 3.1Mbps) (see Exhibit 3-G). Therefore, the actual download speed experienced on broadband connections in American households is approximately 40–50% of the advertised 'up to' speed to which they

territories. If anything, providing access to subscriber data would spur competition by identifying unserved and underserved areas. This confidentiality requirement simply denies the public vital information needed for important policy decision making.

III. Conclusion

SEATOA thanks the Commission for recognizing the need for significant improvement in its broadband data collection methodologies. In an era when broadband has become essential for our country to develop a new manufacturing base and new non-manufacturing economic opportunities to replace its lost textile, agricultural, and manufacturing base, for U.S. jobs, economic growth, global competitiveness and democratic engagement, both the SBDD data and the Commission's Form 477 processes need to be significantly reformed to ensure that policymakers (and broadband providers) get a truly granular and accurate picture of how broadband underserved our country, and especially our poor and rural areas, remains.

Respectfully submitted by,

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